the overall connectivity and investment in the infrastructure, you wouldn't be able to get all the benefit out of the 5Gs unless a holistic approach is taken towards building that infrastructure overall.

MR. BARTOLOME: Verné, just one quick question for you before we move on to the next participant. You mentioned satellite as a platform being used by some of your healthcare facilities. Have they found satellite to be sufficient in providing the variety of broadband-enabled services like telehealth with respect to their patients using satellite as a platform?

MS. BOERNER: It has been utilized as a backup so when microwave is not available then they revert back to satellite. So, yes, it has helped but it is not the number one choice.

MR. BARTOLOME: Okay, got it. Well, thank you very much for your comments, Verné, we really appreciate it. Justin, could you please announce the next participant?

OPERATOR: Certainly. Next we have Eric Brown, President of California Telehealth Association. Your line is open.

MR. BROWN: Good afternoon. So, it's California Telehealth Network. I just wanted to comment on your question with regards to whether or not consumer health needs are going to provide sufficient incentives to drive broadband deeper into underserved areas. My observation about that is here in California where we serve over 350 clinics and hospitals, many of them in rural areas, most of the rural broadband providers, in particular the smaller ones like the gentleman who spoke earlier that are serving rural areas, remember they're not participating necessarily in the clinical side of service delivery related to telehealth; they're providing broadband. That is not their business line. Many of them quite frankly are a little wary of it because of the HIPAA requirements and that kind of thing. So, they're just trying to figure out how to come up with a business model that makes sense to deploy

broadband deeper into rural and unserved areas.

So, to answer the question, I don't think that's the solution. I do think the solution, based on what we've seen in rural California, in our many communities that remain unserved from a broadband standpoint, is when we have the capability to aggregate the needs of the safety net intuitions in those rural communities -- by that I mean not just the healthcare but also the schools and libraries, the public safety facilities, et cetera -- then we begin to see a business model that makes more sense.

So, I would encourage the Commission, from a policy standpoint, an approach that specifically for rural begins to breakdown some of the silos around the funding sources. As an example, the Connect America Fund in California has only three providers that can access those funds. They're all big providers. That's not to disparage them but, again, for a lot of these communities that have very rural and small providers it's not an option for them.

The last thing I'll say and then give up the mic is as people have been hinting in their previous comments there is no one-size-fits-all solution but to fill in the gaps that are not being served by these commercial providers -- and I used to be one -- I think it's going to take either local consortia or regional consortia or non-profit oriented entities because if the for-profit folks were going to serve, the chances are it would have been served by now. So, in order to come up with the right solution, the right hybrid networks that look at wireline and wireless and 5G and all those kinds of things, it's difficult to do that when everybody's got a profit motive involved with the initiative.

MR. BARTOLOME: Great. Thanks very much, Eric. Justin?

OPERATOR: Next we have the line of Everette Bacon, President of the National Federation of the Blind. Your line is open.

MR. BACON: Can you hear me?

MR. BARTOLOME: Yes, we can, Everette.

Thank you very much for joining us.

MR. BACON: I'm actually a board member with the National Federation of the Blind. I'm the President of the Utah affiliate. We have a national organization out of Baltimore, Maryland. We are the largest and oldest consumer advocacy organization of blind people for blind people. We have affiliates in every single state as well as chapters and members all over the country.

We estimate there's 1.4 million blind/low-vision individuals across the country in rural areas. The biggest things, challenges we are facing, are definitely with regards to accessibility. With regards to accessibility for telehealth some of the things that we're noticing are patient portals that people need to access. The problem is that they are not accessible to a screen reader, they have not gone through any kind of regulations. We do recommend that the web accessibility 2.0 guidelines be used. These guidelines have been in place for quite some time through the world wide web consortium, but there's

actually no regulations in place to have those guidelines be enforced or used. And that's part of the problem. So, blind individuals that might have the ability, have a computer or a phone that's accessible, they can't access the patient portals, it doesn't read to them.

The other issue is devices. Medical devices that are needed for blind people, things like CPAP machines, things like blood glucose monitors, and things like that, those have digital displays, digital readouts that, again, have not been made accessible, so a blind individual cannot get that information themselves. The thought that we notice that people seem to have is that blind people readily have a spouse or some kind of caregiver that can read this information to them or can help them with this information, and that's simply not the case in many instances. And it's also not the case that blind people want to be able to access that information themselves, it's important to them, it's their privacy.

So, we would implore that you consider

the accessibility in how you look at this in the future. We thank you for your time and thank you for this opportunity.

MR. BARTOLOME: Absolutely. Thank you very much, Everette. Justin, is there anyone else in queue for the first topic? If not, we can move on to the second.

OPERATOR: We have no one further in queue at this time.

MR. BARTOLOME: Great. It looks like there may be some new participants on the phone. Can you please announce them if you're able to?

OPERATOR: Certainly. It looks like we have now been joined by the line of Sherita Kennedy of the FCC, Elaine Gardner as well from the FCC, and Jon Windhausen of the SHLB Coalition. I don't show any further late entries here for us.

MR. BARTOLOME: Thank you, Justin. So, let's now move on to the next topic on broadband health adoption. On this we would appreciate your input as to how we can further promote and foster broadband health adoption and close the divide.

Some of the participants have already touched on this topic, but I want to make sure there's an opportunity for others who may have additional comments to make with respect to this topic to do so now.

So, with this in mind, please press * then 1 to queue up if you have any comments. The question is do you have any suggestions as to how the FCC and its Task Force can further increase consumer awareness in adoption of broadband health technology solutions and services generally, and specifically for certain population groups that a lot of experts contend continue to experience digital divide issues and are medically underserved, for example the economically disadvantaged, seniors, people with disabilities, native Americans, and veterans. We'd appreciate any comments from any of you on this topic.

OPERATOR: It looks like first we have the line of Dr. Doug Waite, Medical Director of Children's Village. Your line is open.

DR. WAITE: I'm not sure if this fits

into the previous topic or this one, but I really forgot to mention one of the biggest things for physicians is cross-state licensure. The American County Pediatrics and multiple telemedicine organizations have brought this issue up and I'm not sure if the FCC is the person to do this, but this is something that probably would have to take place at the federal level, and maybe as an exemption specific to telemedicine as long as the physician is licensed in one of the states. When we begin to talk about specialty services as multiple people have mentioned it's not always possible for someone in a single state to see a specialist, especially for something that is not well-known to a lot of physicians like fetal alcohol spectrum disorders and developmental disabilities. So, I just wanted to put that plug in.

MR. BARTOLOME: Dr. Waite, actually while I have you on the phone I think I recall from the bio that you sent us that you've

initiated telemedicine clinic with the National Organization for Fetal Alcohol Syndrome. I wanted to ask you how telemedicine could actually be used to help address fetal alcoholism particularly on tribal lands. Can you comment on that please?

DR. WAITE: This is in its infancy. I'm working with NOFAS, a national organization for fetal alcohol syndrome on this because as we know these kids are not being diagnosed. A lot of them are in foster care and adopted. We get calls all the time of people desperate, really from across the United States, to just get their kid diagnosed because no one has been able to diagnose them and they've not been able to get services, no one is understanding what's going on with their kid.

In tribal lands I would say this is even more critical because of the lack of providers, and probably also lack of access is another piece of this. This would be a very easy thing to do because a lot of times we can get school reports with psychological testing, we can interface with the people themselves, the exams. While initially

it was a big deal for fetal alcohol syndrome we now know that the physical exam findings are a small component of the greater neurological neurodevelopmental disabilities. So, it really becomes something more like the kind of diagnosis that a psychiatrist might make.

MR. BATOLOME: Great. Thank you again, Dr. Waite. Justin, can you please announce the next person in queue?

OPERATOR: Certainly. Again we'll go to the line of Verné Boerner of Alaska Native Health Board. Your line is open.

MS. BOERNER: Thank you so much. I apologize for misunderstanding the overall format.

MR. BATOLOME: No problem, Verné.

MS. BOERNER: I did want to add one thing to the adoption issue as far as having general community access. I had mentioned that

percent of rural Alaska does not have access but there is underutilized capacity, and perhaps there's some sort of way to utilize the underutilized capacity which regulations prohibit

currently outside of the actual health program. If that is made available during off hours or some other way we might be able to increase community involvement and therefore adoption of broadband in rural communities.

MR. BARTOLOME: Great. Thank you very much, Verné. Go ahead, Justin. Announce the next person in queue please.

OPERATOR: Certainly. Next we'll go to the line of David and Nikki with CSD, Communications Service for the Deaf. Your line is open.

MR. SOUKUP: Just one moment please.

MR. BARTOLOME: Sure, not a problem.

MR. BAHAR: Hi. Just to let everyone know, the connection between the interpreter and myself is a little choppy so I'm going to do my best here to communicate our thoughts.

This is David Bahar and I actually had my hand raised for the previous topic. I did want to respond to the point that was made about the thorny policy issue that we need to address, and

that being funding for broadband converge and the costs of funding that only requires 10m down, 1m up if everyone follows there. Unlike the FCC's definition of broadband which is 25/3 and which is sufficient for deaf and hard of hearing people to be able to participate in group video chats which really are necessary for things like telemedicine and telehealth applications where you can video in an interpreter, a medical professional, and the deaf or hard of hearing person. 10/1 does not meet the requirement for that type of telemedicine applicability.

So, by continuing to require only 10/1 connections for the high-cost funding that really leaves out a number of service options quite frankly for deaf and hard of hearing people who live in more rural areas across the country. So, I do think it is crucial for accessibility purposes to look at upping the requirements to meet the FCC standard for broadband and that would be at 25/3.

In addition, I would also like to

discourage the FCC from revising that standard of 25/3 downward. It really is imperative that it's maintained. The moment that you reduce the speed requirements you are risking harm being done to the availability of services and the communication options for deaf and hard of hearing people who rely on the video connection for the use of their native language. That really is my comment to address that first topic.

Moving on to the topic that we're currently discussing, the second question that was posed, I do have some comments regarding how we could increase the adoption of telemedicine specifically in rural areas among deaf and hard of hearing people. There was some years ago a program under the National Telecommunications Information Association that allowed individuals that connected, low-income, rural deaf and hard of hearing people who were not able to afford broadband or were not able to afford mobile devices to be able to access broadband. And in that program which was run for three years it's

entirety they made over 13,000 with members of the deaf and hard of hearing community throughout the United States and they provided subsidized broadband services to them and devices as well that they could use in order to access it, one example being iPads. At the end of that program they surveyed all of the participants in the program and they found that a higher percentage than was expected did have access to broadband. You did not expect that result but that was wonderful.

So, I guess it's kind of a mixed bag there because many of them did have broadband and they were paying for services that they couldn't necessarily afford. However, because of the communication requirements requiring internet to make the video calls in sign language they were essentially having to prioritize certain services over the other and that really isn't applicable to increasing adoption of these types of things when it comes to telemedicine and telehealth programs specifically. There is something similar, a

lifeline program and another that are actually crucial and they're doing what they can to make sure we are increasing the access given to deaf and hard of hearing individuals in rural areas.

In regard to adoption specifically, we have found that there is one very specific challenge was an incredibly low number in the digital literacy of said individuals, specifically deaf and hard of hearing people in rural areas, that we had surveyed. It was much, much higher than we had expected. And that we realized does prevent a number of them from using the internet connection that they might have or use that internet- connected device that was given to them as a part of the program. So, for example, they're being handed a device but then don't know how to use it. And we think that that really is a barrier to the adoption of services and that could lead to another barrier in accessing the medical services as well.

We do know we've come a long way and a lot has been done to improve the adoption of

telemedicine and health in the deaf and hard of hearing community, but to make sure that it happens we need to make sure that those providers are trained and make sure that we are training the deaf and hard of hearing users as well on how they can use those types of systems. That really does need to be emphasized in my view.

MR. BATOLOME: Great. Thank you very much, David, for your comments, and thank you Madam Interpreter. Justin, is there anyone else in queue for topic number 2?

OPERATOR: At this time we have no one further in queue.

MR. BARTOLOME: Thank you, Justin. We'll now move on, ladies and gentlemen, to our third topic. Some of you have already commented on this, and it's the FCC's Rural Healthcare Program.

Just briefly for those participants who may not be familiar with the Program, the Program provides funding to eligible healthcare providers for telecommunications and broadband services

necessary for the provision of healthcare. The underlying goal is really to provide the quality of healthcare available to patients in rural communities by ensuring that eligible healthcare providers have access to telecommunications and broadband services. Currently funding for the Program is capped at $400 million annually and we're certainly aware, and as some of you have commented, that demand for funding under this program is increasing.

So, we'd like to hear from you now. Anyone interested please comment on this topic, especially for those of you who have participated in the Program. I'll pose the following question: Do you think the FCC's Rural Healthcare Program as a whole, including its regulatory framework and the manner in which it is administered, remains effective and is keeping pace with the changes in the delivery of healthcare and technological developments? If not, what actions or changes would you recommend that the FCC make to the RHC Program and potentially other universal service

programs given its authority? Please press *1 now to comment on this question.

In particular if John Windhausen with the Schools, Health & Libraries Broadband Coalition is on the line we'd appreciate your comments on this question. But it looks like we have several folks. Justin, can you announce the next person in queue?

OPERATOR: Absolutely. Next we go to the line of Hank Fanberg of CHRISTUS Health. Your line is open.

MR. FANBERG: Thank you. And thank you for the opportunity. Let me also extend that I, technically, was the Project Coordinator for the FCC Rural Healthcare Pilot Program in Texas. Just a couple of general comments to the question.

The Rural Health Program I think is a very important and critical program, but the pace of change and technology in general in the adoption of technology by healthcare facilities and the need now to send simultaneously data, video, needs for bandwidth that are increasing,

that I would characterize the greatest need is in flexibility with the Program and with the regulations of the Program. There needs to be flexibility in contracting; not all the time does it make sense to have a multiyear contract with a particular service provider. So, there needs to be some flexibility and new thinking in how best to provide contracting with service providers in different situations, perhaps even some of the situations that were discussed by the people representing different needs and different entities earlier.

There needs to be a flexibility in the funding, I think everyone would agree. Since the requests for funding exceeded the amount last year we're all still kind of waiting to see how much the requests were for this fiscal year now. So, there needs to be flexibility in the funding to increase the funding.

There needs to be flexibility in how we are able to use the broadband. I think USAC has been doing really a good job with what I perceive

to be limited resources over the past probably 12 months, but I think the FCC has more regulatory authority to make changes than it's been willing to accept, in my opinion, up until this point in time. So, flexibility is the key.

MR. BARTOLOME: Great. Thank you very much, Hank. Justin, can you please announce the next person?

OPERATOR: Absolutely. It looks like we have Verné Boerner again of Alaska Native Health Board. Your line is open.

MS. BOERNER: Hi, there, thank you again. I just wanted to respond to your questions that you had posed in addition as to the value as a whole and is it keeping pace. So, the answer as far as the Alaska Tribal Health System is concerned is an absolute yes. I think it's been a great example of partnership between the tribes and the FCC, so that definitely is yes.

Then keeping pace. One of the things that I would say is not keeping pace is the cap has been implemented, it's not congressionally

mandated, and that it has not changed since it's been implemented although the eligibility has been broadened and there's a broader use or broader access to the funds but the funds themselves have not changed pace with either inflation or increased eligibility for that. Those are my additional comments. Thank you so much.

MR. BARTOLOME: Thank you very much, Verné. Go ahead, Justin.

OPERATOR: Next we have the line of Eric Brown with the California Telehealth Network. Mr. Brown, your line is now open.

MR. BROWN: Thank you. I think the comments I would leave with you with regards to the Rural Healthcare Program are number one, I think it is clearly time to revisit the amount of allocation, the $400 million. The folks that I've talked to historically have indicated that there wasn't a strong justification for arriving at that number in the first place, but whether or not there was I would certainly be in favor or taking a fresh look at what should the allocation be

given the realities of today's healthcare landscape and the number of healthcare providers, et cetera, because the current situation where we're managing through the cap with funding windows and so forth, as has been said, is creating a lot of uncertainty. We're finding that that is becoming problematic with regards to getting the sites for whom the program is most intended to participate. They simply can't wait to try to figure out what the discount is going to be.

I also think that per the comments that SHLB, John Windhausen, and that group of which we're members and others have filed in the past, there really needs to be another look at the discount rate itself as it relates particularly to rural America versus the non-rural sites. When we look at what the subsidy amounts are in comparison to, for instance E- Rate, again it would suggest that maybe there is something that needs to be done there even if we had to come up with a tiered system for higher rates in rural communities

versus urban communities.

Those would the top comments. We love the Program, we just think it's time for it to be updated and enhanced.

MR. BATOLOMTE: Understood. Eric, just one quick question for you before we move on to the next participant. Setting aside the monetary cap for the Program, do you have a suggestion as to how we can better ensure that the rural areas of your state and other states that have significant health issues and have significant need for connectivity solutions get funding?

MR. BROWN: Well, I'm reminded that when you apply for grants or funding -- I know these aren't grants, these are subsidies -- usually it's either based on merit or on competition. This seems to be a little bit of both now because of the funding cap. I think that what I would like to see, certainly with regard to rural communities, is I've got a half dozen rural communities in California that we've been trying to -- these are critical access hospitals, tribal

health facilities, rural health clinics, that we've been trying to get fiber-based broadband to so that they could do telemedicine, do duplex video communication for seven years. And we haven't been able to do it because even with the Healthcare Connect Fund had a 65 percent subsidy.

Again, standing on its own, we can't make it pencil out. So, I go back to my comments earlier around maybe if there's the ability to use the funds in conjunction with other federal funding for schools, libraries, public safety, et cetera, I could see us in at least half of those cases coming up with a viable solution.

MR. BARTOLOME: Thanks very much, Eric. Justin, will you please announce the next participant?

OPERATOR: Certainly, thank you. So, next we'll go to the line of Eric Brown of Telehealth Network.

MR. BARTOLOME: I think that was just Mr. Brown.

OPERATOR: I apologize. Next we have

the line of John Windhausen who is with the SHLB Coalition.

MR. BARTOLOME: Great, thank you, Justin.

MR. WINDHAUSEN: Hi, this is John. Thanks for having me on. I have four points that I'd like to make which I'll do as quickly as I can.

First, in response to your questions, the first question was in the Program valuable. Yes, it's enormously valuable, in fact it's a shame that it's the smallest of the four universal service funded programs when arguably the healthcare program should be at least equal in size to the other three universal service fund programs. So, it's enormously important.

I would also add that I fully support the comments from our friends in Alaska, but this is not just an Alaskan issue. We've heard from California but we also have rural telehealth networks in Utah, and New Mexico, and New England, and Arkansas, and other places around the country

where this rural health connectivity is vitally important to extending both the quality of care and the cost of care is much cheaper if you use a telemedicine solution which is increasingly important as we face this critical shortage of hospitals in rural areas. So, I'd say this is a national problem that's critically important for the FCC to address.

You asked a question about whether the Program has kept up with the changes in the marketplace in demand. Absolutely it has not. The obvious point being that it's 20 years since the cap was set at $400 million and just inflation alone would argue that the cap should be $700 to $800 million. But there are other changes that have taken place as well. The addition of stilled nursing facilities by Congress means that there are additional eligible applications for this Program and that's wonderful and very worthwhile but it does add stress to that $400 million cap.

The other change that I just learned about a couple of hours ago today that I didn't

appreciate until I went to this ATA briefing on Capitol Hill. They talked about the increase in bandwidth demands that has been required because of electronic health records, and the fact that the 2009 stimulus bill encouraged all providers to adopt electronical medical records. Those really began to take off in the rural markets between 2013, 2015. So, just one provider gave an example that the average bandwidth demand per site grew from 7 megabits per second in 2013 to 317 megabits per second in 2015. So, just in two years the bandwidth demands just exploded. So, that's another example of why the cap really needs to be raised and the percentage taken a look at.

In response to your other question to Eric about the priority for rural areas, I think we're all in agreement about the needs for rural areas. One idea that I'll just throw on the table, I can't say we necessarily endorse this yet but it ought to be looked at, as whether you could provide some sort of a guarantee or priority funding for the rural health clinics and their

connectivity. So, that would help to provide some certainty going forward and would help these telehealth networks with their planning purposes, whatever the percentage is, and probably should be increased for those rural providers. But also if they could be accompanied with a priority system or guarantee that that funding will continue to flow, that I think would help, as I said, the certainty and also provide some stability going forward.

Now, obviously that leaves the question, well, the second priority, what happens to them? And that's still something that needs to be thought through. So, I'm not necessarily wholeheartedly endorsing the idea yet but I think it is something worth talking about. Thank you.

MR. BARTOLOME: Thank you, John. Just one quick question for you. Is the SHLB Coalition, would it prefer some sort of priority mechanism as opposed to the current pro rata approach with respect to available funds?

MR. WINDHAUSEN: Well, that's exactly

what I'm putting on the table for discussion. I know there was a priority system in place for the E-Rate Program and then the FCC moved away for that once it found more funding. So, if we can fully fund the Program, and doubling the amount of money I think is a reasonable place to look at doubling the Program. Maybe you don't need any kind of a priority system at that point because then the funding would be there. But if the funding is not available to fully fund it at the $800 million and you're stuck with the $400 million cap maybe there needs to be a priority for the rural connections.

MR. BARTOLOME: Great, thank you very much, John. Justin, would you please announce the next participant?

OPERATOR: Certainly. Next we'll go to Jon Zasada with APCA. Your line is open.

MR. ZASADA: Good morning, and thank you for this opportunity. I'm with the Alaska Primary Care Association. We support the activities of Alaska's 26 federally qualified health centers

that operate at 179 sites throughout the state. I really don't want to belabor the points that have been made by my colleagues, Connie Beemer and Verné Boerner, or those made by John Windhausen.

Again, we have found great value in the Rural Health Program. It has until 2016 largely kept up with changes that our rural clinics have experienced. The state of Alaska has largely built its medical system on the promise of affordable high-speed dedicated internet at sites throughout the state through a variety of different technologies.

It became inadequate in 2016 when fears of proration came to reality. We have providers that are looking for lower-cost redundant backups, potentially cutting the types of imaging referrals that they send out, and even looking at different types of backup for their electronic health records if they were to not be able to afford the internet that they are using.

In regards to the regulatory framework of the Program, I know there have been some

conversations regarding whether the application process is too onerous or too easy and what the ramifications could be if it was made more easy and potentially more folks would apply for the available funds. It's a difficult situation for our providers. Most of them do not use consultants in their application process and we provide technical assistance in order to make sure that they are fully compliant heading into any given year. So, it would be a benefit if it were less onerous but at the same time we want to make sure that there is adequate funding for the safety net in frontier providers of which we are.

I think that pretty much concludes what I had to say. Again, we absolutely support an increase to the fund. We've also heard conversations that there could be an effort to seek additional funding of RHC potentially through the Department of Health and Human Services. We're wary of that approach. We currently believe that the universal service charge is a good way to fund this Program. We fear that seeking

additional funding through Health and Human Services could put additional pressure on the range of programs that they currently fund. So, that's one other thing that we've been starting to hear about here just in the last two weeks. With that I'll conclude my comments, thanks.

MR. BARTOLOME: Great. Thank you very much, Jon. Justin, please announce the next person in queue.

OPERATOR: Certainly. Again, we'll got to the line of David and Nikki with CSD Communications for the Deaf. Your line is currently open.

MS. SOUKUP: Hi, everyone. This is Nikki speaking. I am with CSD Communication Services for the Deaf. I want to talk specifically about what the FCC could add to their current requirements and considerations going forward.

Maybe you know that CSD was originally founded in South Dakota several years ago. South Dakota is largely rural. Since that time CSD has